American Vegetable Grower

SEPTEMBER • 1954

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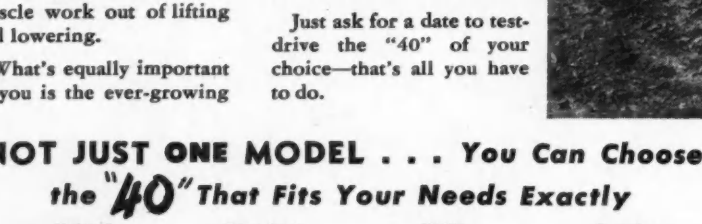

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LETTERS TO THE EDITOR

New Varieties of Vegetables

Dear Editor:

I like the short items you publish from time to time on new varieties of vegetables that are worthy of trial. Naturally, I like to know if they are disease resistant and are suitable for canning or freezing.

New varieties and strains should be tested on a limited scale to see whether they will produce satisfactorily under existing soil conditions. One cannot afford to plant a large acreage of a variety that one has not tested. I always read the illustrated material carefully before making a selection.

For instance, Wade bush bean, which was an all-American winner a few years ago, has attained quite a wide planting and is excellent for market and shipping as well as home use and canning and freezing.

It is always my plan to try out the newer strains a year in advance before making a main planting, and I have found that this method has saved me money.

Hammonton, N. J. Elgin C. Wade

A Drill to Scatter Carrot Seed

Dear Editor:

We would appreciate any information you could give us about a drill for carrot seed that would scatter the seed over a band about four inches wide or so.

Cedar Springs, Mich.
William H. Bolthouse

Try the S. L. Allen Company, Inc., 5th and Glenwood Avenue, Philadelphia 40, Pa. They make a wide shoe for one of their Planet Jr. drills which should serve the purpose for you. The Ventura Manufacturing Company, Ventura, Calif., also makes a drill which will scatter the seed over a wide band.—Ed.

How We Market Our Produce

Dear Editor:

I have enjoyed your articles on marketing and how growers are striving to send quality vegetables to market.

The condition and appearance of vegetables as they appear on the shelves of a market depend largely on the way they are packed and transported to the packing house. This is especially true of vegetables that belong to the greens and salads class.

Some growers are careless in gathering their lettuce or spinach, then pack it on a truck without properly arranging it, drive perhaps 30 or so miles to market and often on rough roads. Then they expect the greens to look fresh and attractive.

In the fall of the year, from the middle of September until Thanksgiving, we market daily either a load of lettuce or spinach or a mixed load. Handling from 50 to 125 crates daily for several weeks requires good, careful help and management. It is necessary to start cutting the produce very early in the morning as the more dew that is on the greens the better.

I have to employ enough help to have a load harvested by noon. However, I prefer to have it by 10:00 if possible. The first hour everyone is required to cut as many crates as possible. Then one man is sent for the truck to cart the filled crates to the packing house. As soon as he returns, two or three cutters hand the crates up to the driver who carefully lays each crate on its side. I have found that this method prevents settling and causing a crate to have the appearance of being half full.

Enough help is sent to the packing house to carry the crates off the truck—about 30 or 35 to a load—and place them within easy reach of the water hose. The truck then returns to the field for another load.

Lettuce is packed on a concrete floor in the shade and out of the air as much as possible. Laying the crates on their sides permits stacking them at least five or six high without injury.

I have arranged an overhead sprinkling system in my packing shed. We sprinkle water over the crates for five or 10 minutes once every two hours until around 4:00 P.M. Occasionally, during the first two weeks in September, we sprinkle the crates with cracked ice.

About 4:30 P.M. the crates are loaded on a truck—on their sides, tops to tops. This I have found prevents crushing and bruising. After the crates are loaded, a large canvas is spread over them and carefully tied down. Then, as the crates are taken off the truck in the New York City market their contents appear fresh and attractive.

Trenton, N. J. J. S.

Pipe Carrier

Dear Editor:

The picture of the pipe carrier on page 15 of the June issue of AMERICAN VEGETABLE GROWER that was devised by Norman Harmon interested me very much. I can see how it would save a lot of time when transferring pipe, but I couldn't help thinking that a rack with center supports at front and rear with arms extending to either side would be still handier. This would permit the pipe to be loaded or removed from the sides as well as from the ends. Short, upright projections at the outer ends of the arms would prevent pipe from rolling off.

Seabrook, N. J. Floyd G. Slentz

Where to Buy Hotents

Dear Editor:

I would appreciate it very much if you could give me the name of a manufacturer from whom I could buy hotents.

Wellsville, Ohio E. T. Stout

You might contact Germain's, Inc., Germaco Products Div., 741-747 Terminal Street, Los Angeles, Calif.—Ed.

Likes Buyer's Guide for Vegetable Growers

Dear Editor:

I am a subscriber to both AMERICAN FRUIT GROWER and AMERICAN VEGETABLE GROWER, and it certainly was a pleasure for me to see you people come out with a Buyer's Guide for the Vegetable Grower. With a handy reference such as this, no grower can help but make a wise purchase.

Lansing, Mich. R. L. Simpson

American
VEGETABLE GROWER
REG. U. S. PAT. OFF.
(Commercial Vegetable Grower)

Vol. 2 September 1954 No. 9

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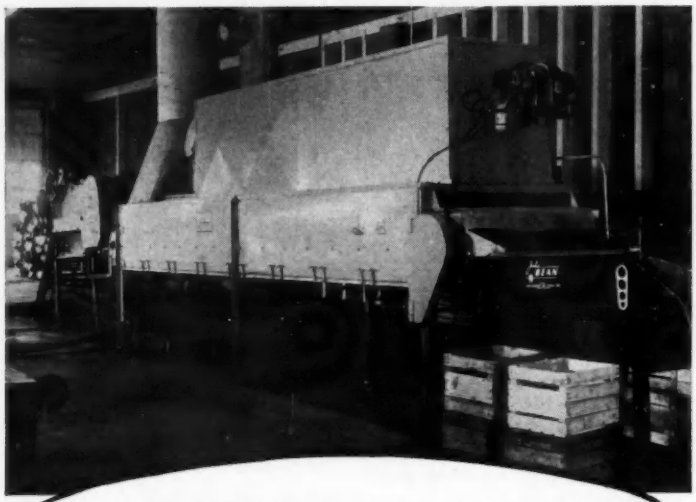
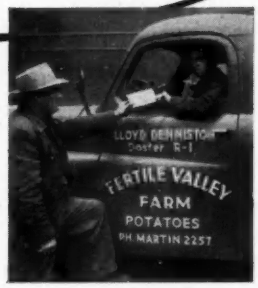


"Our JOHN BEAN POTATO LAUNDRY helps us get top market prices"

say LLOYD DENNISTON
and son,
Doster, Michigan



Consistent, premium prices for every pack and quick acceptance by buyers—those are the advantages Lloyd Denniston gained by installing a John Bean Potato Laundry. Potatoes from his Fertile Valley Farm, near Doster, Michigan, now go to market clean and dry—"kitchen-clean", the way housewives demand them today. Store managers and buyers know that washed potatoes look better, sell faster, and are willing to pay the extra for them that means profitable business for the grower.

Thorough cleaning and drying, rapid but gentle handling of the spuds, minimum water consumption and compact size are among the outstanding features of a John Bean Potato Laundry. Potatoes from field or storage are sprayed with water and scrubbed by soft pintle rubber brushes, partially dried by absorbent rollers and, finally, dried by circulating warm air. Moisture evaporates without the potatoes becoming heated. An accurate John Bean Rubber Spool Sizer, plus a sorting table and/or a Speed-Weigh Bagger if needed, completely readies the crop for profitable marketing.

Of course, Lloyd Denniston's Potato Laundry is only one of two steps he has taken to mechanize the handling of his crop. He had previously gained the harvesting speed, low labor costs and improved quality resulting from use of a John Bean Potato Harvester.

Get the details on these two great pieces of equipment today. Consult your John Bean dealer or write direct for catalogs.

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CALENDAR OF COMING MEETINGS & EXHIBITS

Sept. 23–25—Texas Citrus and Vegetable Growers and Shippers, Inc., annual meeting, Baker and Adolphus hotels, Dallas.—Austin E. Anson Exe. Mgr., 306 E. Jackson, Harlingen.

Sept. 28–30—Florida Fruit and Vegetable Association annual meeting, Sans Souci Hotel, Miami Beach. Association headquarters: 4401 E. Colonial Drive, Orlando.

Oct. 3–5—Produce Packaging Association 4th annual conference and exposition, The Shoreham Hotel, Washington, D. C.—Robt. A. Cooper, Exec. Sec'y, 500 Fifth Ave., New York 36, N. Y.

Nov. 2–4—Western Growers Association Annual meeting, Hotel del Coronado, Coronado, Calif. C. B. Moore, Exe. Vice-Pres., 606 South Hill St., Los Angeles 14.

Nov. 9–11—Annual Wisconsin State Potato Show, Antigo.—Harold Simons, Sec'y, Wis. Potato Growers' Assn., Inc., Antigo.

Nov. 15–17—American Veneer Package Association, Park Sheraton Hotel, New York City. Association headquarters, 1225½ North Orange Ave., Orlando, Fla.

Nov. 29–Dec. 2—Vegetable Growers Association of America annual convention, Syracuse, N. Y.—Joseph S. Shelly, Sec'y, 528 Mills Bldg., Washington, D. C.

Dec. 5–9—National Junior Vegetable Growers Association 20th annual convention Cincinnati, Ohio.—Grant B. Snyder, Adult Advisor, Univ. of Mass., Amherst.

BORON DEFICIENCY SYMPTOMS

GENERAL deficiency symptom in mature cabbage is water-soaked spots in the pith of the main stem. These often turn brown and disintegrate to form a hollow condition. Sometimes the outer leaves separate from the stem and cause the head to turn yellow and become soft.

When there is boron deficiency in early transplants, the growing point dies soon followed by the whole plant. On young plants before heads start to develop, the leaves are curled and brittle and swellings occur on the underside of petiole, midrib, and sometimes on veins. These areas cork over.

Nearly all midribs of outer leaves of mature heads show corking at harvesttime. Plants that reach this stage of head development will appear wilted and the leaves are thick and stiff.

Deficiency in Cauliflower

The most common boron deficiency symptoms in cauliflower are browning of the head and development of a hollow stem. Small spots occur on the head which may spread until the head is entirely discolored, giving it a bitter taste.

Distortion of the leaves also occurs. The leaves curl and turn brittle. Swellings soon appear on the underside of the petiole, midrib, and sometimes veins. These areas will then cork over.

"IT'S EASY TO GROW LETTUCE" says Maine's Joe Newcomb

A combination of climate and know-how has spelled success for this young grower

By CHARLES L. STRATTON

JOSEPH NEWCOMB, Cumberland County, Scarboro, Maine, calls himself an all around truck gardener with eight to 10 principal crops raised on his many fields scattered along the winding Cape Elizabeth Highway. But his biggest crop is lettuce—100 crates a day average throughout the season.

Newcomb is a young grower. He has been on his own the last three years since his dad retired. But he is no stranger to lettuce growing as he was born and brought up in the business. Like many successful growers, he plants a number of varieties.

Part of a crew working in one of Joe Newcomb's lettuce fields. When the lettuce matures evenly, two youths work together, one cutting head with a boning knife and the other packing into crates.

Joe Newcomb cuts off a head of lettuce with a boning knife. Lettuce is packed 18 to a crate and precooled in ice water bath to remove dirt.

He starts the season off with Great Lakes lettuce planted in the greenhouse around March 15. He claims that it is a big heading, hardy lettuce and that it brings a good price. About April 20, depending on weather conditions, the Great Lakes plants are set outside. The first outdoor seeding in his section is about April 3 with another iceberg type called Pennlake. During the summer months Newcomb is apt to have 20 acres planted to Pennlake. This variety matures quickly and he can get a bigger cutting over a field at one time.

For the end-of-the-season planting a lettuce known as A-36 (Vaughan's) is Newcomb's choice. He has tested it in his fields and finds that it can stand more frost in the fall than many other types. In 1953 his last planting was made on July 26 and was scheduled for an early October market.

After a field has been prepared for seeding, Newcomb broadcasts a special lettuce fertilizer known as 5-21-7 at the rate of 1,000 to 1,800 pounds to the acre, depending on the amount of hen and barnyard manures already applied.

Newcomb's practice is to seed a field of lettuce every five days throughout the season. Whether a field contains a fraction of an acre or several acres, it all goes into lettuce in one planting. Mechanical equipment and drills seed three rows at a time. Rows are 18 inches apart in order to allow clearance for tractor tires. Later, the lettuce gets an occasional side dressing of nitrate as a booster.

Although Newcomb hires a number of boys to help out with the heavy work, he takes advantage of the local employment agency that sends out a supervisor with each crew of 10 or more girls ranging in age from 13 to 17. Newcomb outlines to the supervisor the work he wants done and the crew works under her direction.

A crew of workers goes through each field of lettuce three times. The first time the crew thins the lettuce to stand 16 to 18 inches apart, depending on variety. Later two more trips are made to weed the crop with hand

(*Continued on page 12*)

GROWING CANTALOUPES in the SOUTHWEST

How spring-cantaloupe growers get 160-crate production per acre

By THOMAS W. WHITAKER and G. W. BOHN
U. S. Department of Agriculture

CANTALOUPES for spring harvest are raised almost exclusively in the Yuma Valley of Arizona and the Imperial and Palo Verde valleys of California. The harvest season covers May and June and sometimes overlaps into the first or the second week of July.

In 1953, 15,000 acres were planted in the Yuma district to cantaloupes for spring harvest. This is a substantial increase over the 1952 acreage of 13,600 acres, and well above the average of 11,600 acres for the three-year period, 1949-51. The yield in crates per acre for this district in 1953 was 160; the same as in 1952. These yields are considerably in excess of the average yield of 143 crates per acre for the three-year period 1949-51. The increased yields in this district for the past two years probably reflect a combination of better farming practices and a lucrative price structure.

In southern California, 15,400 acres were planted to spring cantaloupes in 1953. This is somewhat more than the 1952 acreage of 13,100 acres, but not equal to the three-year average, 1949-51, of 16,430 acres. The yield of 125 crates per acre in 1953 is about the same as the 1952 yield (130 crates per acre) and the average for the three-year period, 1949-51.

Cultural practices in the spring-cantaloupe districts of Arizona and California are unique and are aimed at the production of mature cantaloupes at the earliest possible date. Planting dates range from November 15 to February 15; but most of the crop is planted prior to January 15. Plantings made up to January 15 are usually covered with waxed, glassine paper. Paper covers are placed over each hill, held about five to eight inches above the soil level by an arched wire, and the edges are held down by soil. The covers act as miniature greenhouses, warming the soil for seed germination and later protecting the plants from frost and wind damage. The covers are removed from the plants about March 15, after the danger of killing frosts has passed.

Cantaloupes in the spring districts are planted in beds that are normally from two to two and one half feet high, and on seven foot centers. The beds run in an east-west direction. The seed is planted on the south slope of the bed about half-way between the bottom of the furrow and the peak of the bed. The soil warms up quickly on the southern slope, and there is protection from northerly winds.

Most growers in the spring-cantaloupe districts use a preplanting application of phosphate at the rate of 60 to 120 pounds of P_2O_5 per acre. It is applied as single or treble superphosphate and is drilled into the soil before the lister prepares the beds. It is customary to use about 60 pounds of nitrogen per acre. Half the amount may be applied at planting time and the remainder when the plants commence to send out runners.

In the spring-cantaloupe districts rainfall is not a factor in supplying moisture for the crop. Irrigation water is used to prepare the land as well as to grow the crop. About two months before planting the land is irrigated and when dry enough to be worked is

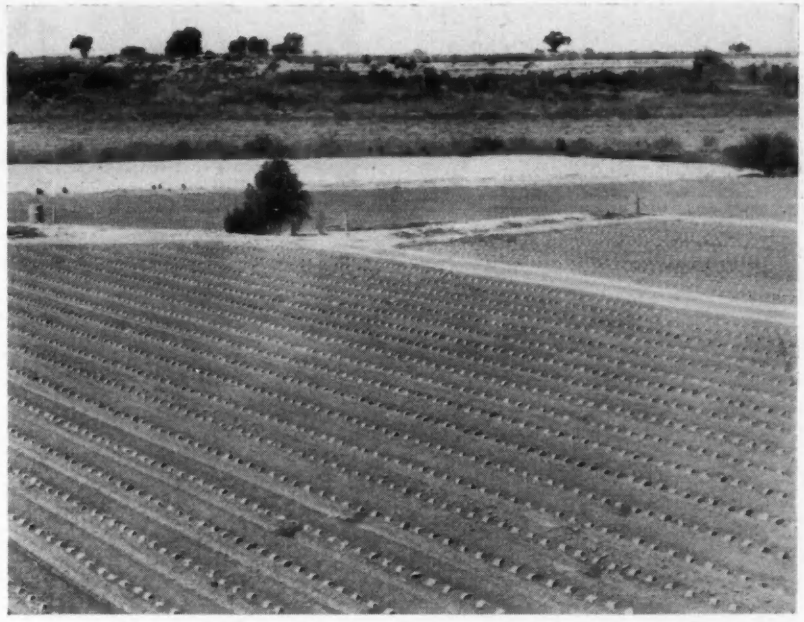
Photograph shows cantaloupe harvesting scene in the Imperial Valley of California. Laborers are gathering the melons which are later deposited in the pneumatic-wheeled trailers.

listed into beds. Afterwards the beds are thoroughly soaked with a heavy irrigation.

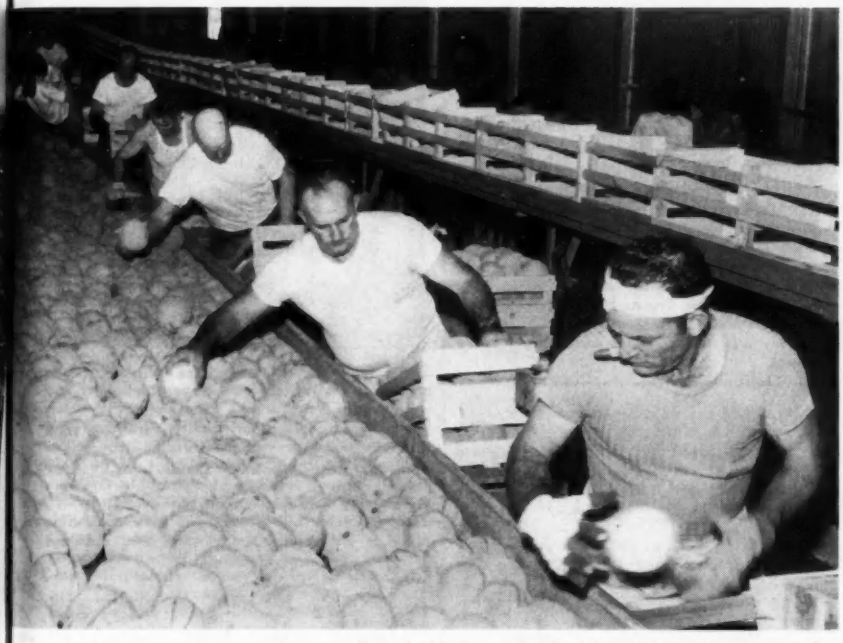
The beds are left in this condition until the moisture content is right for planting. After planting the soil is wet slightly above the planting line. Following this irrigation, water is usually withheld until the covers are removed and danger from frost damage is negligible.

A moderate to heavy irrigation is applied when the plants have set one or two fruits. This is followed by irrigation at one to two-week intervals until harvest. During harvest a light irrigation at not more than five-day intervals is used to prevent the soil from cracking.

Harvesting methods have been relatively stable for the past 15 years. Some improvement in methods that would eliminate the need for large amounts of seasonal labor would be exceedingly desirable. Thus far, however, no one has arrived at a practical answer to this problem.



A cantaloupe field just after the plants have been thinned and the covers opened at one end.



Section of a modern cantaloupe packing shed in Yuma district. After sorting out culls, melons of equal size and maturity are diverted into bins within convenient reach of the pickers.

The melons are harvested by field laborers and deposited in a citrus picking bag carried on the back. At the end of the row the melons are transferred to pneumatic-wheeled trailers with padded bottoms and sides. The trailers are drawn to a central packing shed by trucks. At the central packing shed, the melons are sorted and graded for quality, size, and maturity. The melons are packed in crates according to size and placed in refrigerator cars for hauling to eastern markets or in trucks for western markets.

In the Yuma and Blythe (Palo Verde Valley) districts Powdery Mildew Resistant No. 45 is the variety used almost to the exclusion of other varieties. This variety is resistant to one but not to all of the biological races of the powdery mildew fungus. A combination of good shipping and good consumer qualities have made this variety popular ever since its introduction in 1936.

In the Imperial Valley district, Sulphur Resistant V-1 and its derivative variety SR-91 have comprised the bulk of the plantings for the past few years, along with PMR No. 450, a vigorous selection of PMR No. 45. SR-V-1 and SR-91 are very vigorous and seem to have some tolerance to cantaloupe mosaic. In these varieties powdery mildew is controlled by dusting with sulphur at regular intervals.

PMR No. 450 and PMR No. 45 are sensitive to sulfur. Powdery mildew can be controlled in these varieties by dusting with dinitro-capryl-phenyl crotonate (sold under the trade names Karathane and Iscothan).

Disease problems have not remained static. Up to the introduction of disease-resistant varieties, cantaloupe powdery mildew was the most destructive disease in the spring-cantaloupe area. However, powdery-mildew-resistant varieties and the use of sulfur-resistant varieties have minimized damage from this disease in recent years.

Commencing about 1945, the cantaloupe mosaic disease has been very destructive, particularly in the Imperial Valley. The destructive effects of this disease are responsible in a large measure for the reduced acreage of cantaloupes and Honey Dew melons in this district. Mosaic, a virus disease, is spread by insects, particularly aphids.

The extent of the infection is directly correlated with the abundance of these insects during March and early April. No successful control for this disease has been worked out. It has been observed that the more vigorous varieties, such as SR-V-1, SR-91, and PMR No. 450, are not apt to be as severely damaged as less vigorous varieties.

Crown blight of cantaloupes is a recently recognized disease that is

(Continued on page 17)

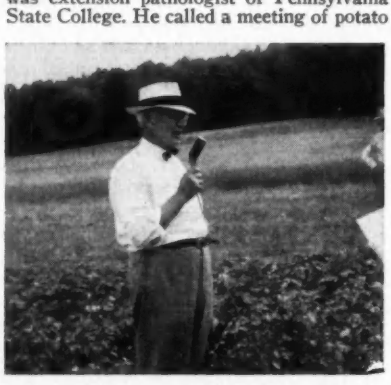
STATE NEWS

- **Potato City Attracts a Thousand Growers**
- **Irrigation Is Hard Work—but "It Sure Pays!"**

PENNSYLVANIA—Over 1,000 potato growers, many with their wives and families, attended the 1954 field day program of the Pennsylvania Co-operative Potato Growers, Inc., held at Potato City, Pa., in July. This is one of the outstanding potato meetings in the East and features a two-day program. The potato picking contest received a good deal of attention, and the annual watermelon cut caused many thrills and spills. The horseshoe pitching contest, the blue label theme song contest, and finally the potato queen contest kept those who attended in a continual state of suspense.

The potato production demonstration this year featured the Leon Epler system of potato farming (See page 13). Demonstrations of three different blower-type spraying machines had growers in the potato demonstration plots checking for coverage. The dry weather cast a cloud of dust over the proceedings but created a lot of interest for the irrigation demonstration.

Shown here is Dr. E. L. Nixon, advisor and founder of the Pennsylvania Co-operative Potato Growers. In 1916 "Doc" Nixon, as he is called by his grower friends, was extension pathologist of Pennsylvania State College. He called a meeting of potato growers to discuss ways in which production methods should be changed to improve the yield and quality of the state's potato crop. An outgrowth of this meeting was the formation of an informal educational and social group to keep alive the spread of ideas for better potato production practices. The group steadily grew in number and in 1922 growers from 36 counties met and organized Pennsylvania Co-operative Potato Growers, Inc.



Dr. E. L. Nixon in potato field at Potato City, Pa.

In 1936 co-operative marketing activities were undertaken, using 15- and 60-pound paper sacks. By 1948 the association had a membership of about 1,000 growers. They marketed over 2,300,000 bushels of potatoes of which over two-thirds were sold in 10- and 15-pound consumer size packages.

Today, the Pennsylvania Co-operative Potato Growers holds its annual field day meetings on its own experimental farm located high in the hills of Pennsylvania. Called Potato City, the experimental farm boasts a modern hotel on U. S. Route 6, an enduring testimonial to the ability of Pennsylvania growers to get together and work together.

MAINE—Potato producers in the state of Maine recently voted in favor of a federal marketing order regulating the handling of their potatoes.

NEW JERSEY—The pickle acreage is increasing. Mosaic and scab diseases are also increasing. Of the eight varieties of pickles tested this year at the state experiment station the Ohio MR17, Wisconsin SR6, and Wisconsin SMR 12 showed very good. Processors also examined the varieties and stated their preference.

Wilbut Runk, county agent in Cumberland County, is enjoying an extended trip to the West Coast.—*C. H. Nissley, Ext. Spec., New Brunswick.*

Wisconsin SMR 12 will be available next year, reports the University of Wisconsin. SMR 12 is a cucumber variety resistant to both spot rot (or scab) and mosaic, two diseases which have cost Wisconsin pickle growers millions of dollars. No other cucumber variety combines resistance to both diseases. SMR 12 is recommended only for those areas where scab and mosaic are a problem.

NEW HAMPSHIRE—A new type vegetable sprayer has made its appearance. Colby Brothers of Litchfield, who annually raise around 600 acres of vegetables which include 200 acres of potatoes are using an air-blast attachment on their potato sprayer. This sprayer, which has no boom, can easily spray 12 to 16 rows of potatoes. The Colbys are spraying dilute with the attachment that can be concentrated if desired.

Many growers are using chemical weed-killers for the first time this year on corn, potatoes, beans, and some cucumbers. The dinitros are being used.—*Perley D. Colby, Asst. Co. Agr'l Agent, Milford.*

OREGON—Boosters of Oregon-grown pole beans who fondly quib "no strings attached" can now say so authentically and scientifically.

A. P. Sidwell, experimenter, reports that various Willamette Valley grown varieties tested recently contain no strings and had from one-sixth to one-tenth as much fiber inside the pod walls as the law permits. U. S. standards for processed beans say "Pod shall not contain more than .15 per cent of weight of fibrous material."

No groups of beans in the Oregon State College tests conducted by Sidwell averaged .025 per cent or one-fortieth of one per cent fiber. Oregon's newer bean varieties, states the researcher, reach market size before fiber development is a problem. This is not true in many growing areas outside the Pacific Northwest.—*Harold & Lillie Larsen.*

MARYLAND—Roy McIntyre of Mt. Vernon in Somerset County estimates that the harvester conveyor developed at the University of Maryland would increase picking efficiency by one-third on green wrap tomatoes.

Pretty Gail Wehkittel, Caldwell, N. J., displays a basket of Garden State vegetables after she was chosen New Jersey's 1954 vegetable queen over a field of 13 other finalists. The blue-eyed brunette will represent the Garden State at the national vegetable queen contest to be held during annual meeting of Vegetable Growers Association of America in Syracuse, N. Y., Nov. 29—Dec. 2. She also will help dramatize New Jersey vegetables at state and national meetings.

Irrigation is not just "supplemental" for the Todd brothers in Baltimore County. Marty and Ben are producing their entire snap bean crop with irrigation water from Bird River and a small creek through their farm. Marty says he hasn't been able to spend much time on his job as president of the Maryland Vegetable Growers Association because he supervises the pickers all day and spends many nights moving irrigation pipe around. He often sleeps in his car by the irrigation pump. "Irrigation is a lot of hard work," Marty says, "but it sure pays off in a dry year."

Edgar Williams, Salisbury, and his son Robert sold 3,049 bushels of cucumbers from eight acres. Their harvest went along smoothly all during the long dry spell. They put on two inches of water a week after they started picking. Constant dusting kept the vines free from diseases and insects. The Williamses got "top of the market" for their

cukes all the way through. The variety was Marketer.

The Corkran Brothers, who farm 2,000 acres at Rhodesdale on Maryland's Eastern Shore, irrigated a small patch of early snap beans this year. The cost of a single irrigation was $25. The increased return from the irrigation was $1,000, said Phil Corkran.

Lovely Miss Jayne Shivers of Allen in Wicomico County is Maryland's vegetable queen for 1954.—*A. A. Duncan, Ext. Hort., College Park.*

Alvah L. Perry, economist of the Maine Agricultural Experiment Station, is authority for the statement that 62 per cent of Maine consumers prefer washed potatoes even at a premium price of four cents extra per 10-pound bag. When washed potatoes and unwashed tubers were sold at the same price, 85 per cent of the customers chose the washed ones, according to Perry.

CALIFORNIA—A double test—the suitability of a new tomato for mechanical harvesting and the suitability of a new harvester for the tomato—is being made by the University of California at Berkeley.

Two main characteristics of the tomato, developed for mechanical harvesting for paste, are high solids content and good paste characteristics. The San Marzano tomato was chosen as a starting point in breeding because of a chance for greater savings in harvest costs and because it can withstand rough handling by a machine. In addition, it has a small vine with a concentrated set of fruit, so all the crop can be harvested at one time, reports plant breeder G. C. Hanna.

The machine to be tested was specifically designed for the work by Coby Lorenzen, agricultural engineer on the Davis campus.

NEW YORK—Good potato chips can come only from high quality potatoes, and these aren't necessarily of the same variety as those grown for the fresh market trade, states Prof. Ora Smith of Cornell's vegetable crops department.

Choice of variety, according to Dr. Smith, should be based on an average-sized, smooth-shaped potato with high specific gravity, good color and flavor, low oil content of chips, and absence of defects.

Potatoes for chips should be harvested when fully mature and stored in well insulated buildings where temperature and ventilation can be controlled.

Charleston Gray is a new long type, light green, disease-resistant watermelon produced by USDA's Southeastern Vegetable Breeding Laboratory, Charleston, S. C. Sufficient seed is available for planting next year. Tests indicate the new variety will prove satisfactory for most parts of the South where watermelons are grown, and it seems especially adapted to the Southeast. The variety is said to be resistant to fusarium wilt and relatively high in resistance to anthracnose.

DELAWARE—The drought this year has resulted in very pronounced differences between irrigation treatments in tomato plots at the University of Delaware Substation in Georgetown.

By August 4 the heavily irrigated plots had received five irrigations. These irrigations have resulted in greatly increased plant growth, increased fruit set, and increased fruit size.

The plots which have not been irrigated have suffered terrific loses from blossom-end rot while the plots which were kept at a high moisture level have had no damage. However, even the plots which have been irrigated only once have 50 per cent less blossom-end rot than the non-irrigated.

Double row of pole beans with aluminum strips in irrigation furrow for conserving water.

DRY WEATHER IS FOILED!

Lining irrigation furrows with aluminum conserves moisture, keeps down weeds, and increases yields

By E. M. EMMERT
University of Kentucky

FEW crops, especially vegetable crops, go through a season when moisture at times is not below optimum for best yields. A few growers are fortunate in having an unlimited water supply, but most growers have limited supplies or none at all. Even with plenty of water the cost of application is a factor.

In order to lessen water loss, the Kentucky Experiment Station tried the use of irrigation furrows lined with aluminum foil. The results were astonishing in dry weather. By running water from a hose or a gated pipe down the lined furrows, with holes every two feet, water was distributed evenly on 200-foot rows and spread to about 24 inches. The result was bumper crops of Kentucky Wonder beans and tomatoes, when everything else was drying up.

A strip of foil 26 inches wide and .00065 inch thick was placed over the furrow and depressed to touch the bottom of the furrow, with dirt holding down the edges. Double rows were planted, one on each side of the lined furrow. About five feet of soil was never wet at all. Few weeds grew, and the foil kept weeds down between the rows.

Apparently, it made no difference if only about one-fourth of the area was wet, for the roots were able to get needed moisture and nutrients from the area which was kept wet. Nitrogen was fed through the holes. In dry weather an application of water was made once a week. Approximately one-third the amount of water was needed as was used by rotary pipe overhead irrigation.

The holes in the bottom of the furrow were made by cutting a transverse slit and a longitudinal slit so that the letter "T" was made, with the stem toward the water flow.

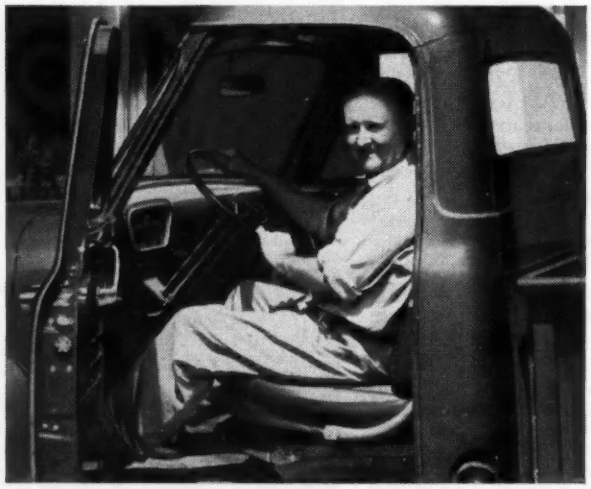
Records show that in every case the furrows gave better yields and quality than overhead rotary irrigation. From a 200-foot double row, 15 bushels of beans were picked and were sold for $5 a bushel in a dry year. The cost of the foil was about $2. Even where no irrigation was used, a 47 per cent increase was obtained due to conservation of natural rainfall accompanied by more even temperatures under the foil in hot weather.

If the results continue to be so good, a machine can be made which will lay the foil and apply fertilizer and soil fumigant all at one time. This is already being done in Hawaii on pineapples, with paper mulch. THE END

Gated pipe is used to irrigate foil-lined furrows.

ROBERT TEATOR gets the keys to his new Pickup at Central Auto Sales in Red Hook, New York. She's all set and ready to g

"I saved money in farm work-3 ways



"Getting in and out is easier than any truck I ever owned," says Mr. Teator of his new Ford DRIVERIZED Cab. He finds that Ford's exclusive seat shock snubbers, non-sag springs and independently adjustable seat back pay off in comfort that's a welcome relief to any working man.

The first week's work convinced farmer Robert Teator that his new Ford Pickup saves him money *three* important ways.

• Though Robert Teator has owned Fords for 3 years, he's had plenty of experience with other makes. He knows what he wants in a farm truck and he knew he'd get what he was after when he placed his order for a new Ford Pickup.

But the very day he took delivery, he found he'd got more than he'd bargained for:

1. **The getaway, power and gas savings** of a modern LOW-FRICTION, High-Compression Ford Six engine.
2. **Less driving fatigue** in Ford's DRIVERIZED Cab offering more visibility, greater seat comfort and easier handling.
3. **Big payload** made possible by Ford's high-capacity design

What about you? Could your farm benefit from the money-saving qualities of a new Ford *Triple Economy* Truck? See your Ford Dealer or write Ford Division, Ford Motor Co., Dept. T-66, Box 658, Dearborn, Michigan.

...ts of load space. You couldn't put a bigger pickup box on ½-tonner." Hay bales are bulky, but Mr. Teator's son nnie finds there's plenty of room for a big load. Extra-ng tailgate makes loading easier, too.

...re's plenty of snap in this new Ford *Cost Clipper* Six," Ronnie. On quick trips to town or slow hauls with heavy ds, Ford's new LOW-FRICTION, High-Compression power real time-saver.

"It's a greenhouse on wheels." Ford's visibility unlimited with big one-piece curved windshield and 4-ft.-wide rear window makes fast maneuvering in tight spots easy. Short turning circle is a real help in close quarters, too.

...es great in tough going." The high, 00-lbs. total axle capacity of Mr. ator's Pickup—higher than any other kup—is just one reason for its de-ndable performance.

"Gas mileage is good, much better than you'd expect from such a powerful engine." LOW-FRICTION, high-torque design of Ford's 115-h.p. Six gets more power from every drop of gas.

"My wife was surprised how smart the new truck looked inside and out." Ford's new free-breathing woven plastic upholstery is practical as well as smart. It rides cooler, is easier to clean

...rybody on the farm gets a kick out of the new Ford," Mr. Teator, "and I couldn't be more pleased with it elf. I'd advise anyone thinking of buying a new truck for r farm to make it a Ford."

1. **SAVES GAS.** Only Ford gives you an ultra-modern LOW-FRICTION engine in any truck model you choose.

2. **SAVES WORK.** America's most comfortable truck cab cuts fatigue. It's DRIVERIZED! Only Ford has it!

3. **SAVES TRIPS.** Top payload capacities in over 220 models from half-tonners to tandem-axle BIG JOBS.

FORD *TRIPLE ECONOMY* TRUCKS

IT'S EASY TO GROW LETTUCE

(*Continued from page 5*)

weeders. The individual plants are circled with the weeders to do a good job. Newcomb does the cultivating between rows with tractor-drawn equipment. Irrigation is used extensively and pipes are carried on special trailers ready for use.

Newcomb plans on having lettuce to send into the wholesale markets every day from approximately June 18 to October at the rate of 100 crates of 18 heads apiece. A crew works over the crop to cut the early maturing lettuce and pack it for market. Cuttings follow closely in order to harvest the lettuce as it reaches its prime.

Lettuce is graded and packed in the field to save time. When the crop is fairly even in maturity, two youngsters usually work together. One, using a sharp boning knife, selects and cuts a head while the second youth packs the lettuce evenly in either a standard Maine lettuce crate or a celery crate. Before a crate is packed, waterproof paper wrappers are inserted in the sides.

Newcomb picks up the crates with either a pickup or trailer and rushes them a few yards—or miles—to his barn packing plant where each crate of lettuce is submerged momentarily in a tub of cold water. This operation not only forces out the hot air and precools the lettuce, but forces out the dirt as well. The crate is set aside to drain before sending to the wholesale market.

Three-Year Planting

Lettuce is grown in the same soil for three years in a row, then it is either sowed to clover for a number of years or planted to butternut, buttercup, blue hubbards, or beans to avoid trouble with lettuce diseases like bottom rot and slime.

As soon as an early crop is harvested, and depending on the season, Newcomb may put in cauliflower, cabbage, beets, carrots, beans, or parsnips. As he likes to have a center passage in a lettuce field, he often puts in cabbage or cauliflower for later transplanting before the lettuce harvest.

Nor does Newcomb stop working when the lettuce season is over. He harrows all acreage and sows down with winter rye, and with the squashes and cabbage put away in storage, he has produce to sell until February. There's equipment to repair and farm machinery to paint. He even took over part of a carload of Texas carrots last winter and packed them in plastic bags for the wholesale markets.

But lettuce is his main crop, and lettuce growing is excellent in his section as there's always a good sea breeze and hot, muggy days are few and far between. Temperature is hardly over 80° throughout the summer and makes for good lettuce growing conditions. The climate and know-how helps Joseph Newcomb a successful grower to top quality lettuce. THE END

The bulletin, CONTROL OF CLUBROOT DISEASE ON CABBAGE FAMILY CROPS, discusses how the disease affects plants, how it spreads, and prevention and control. Several methods of treatment are given.

NEMATODES AND THEIR CONTROL is another bulletin in which growers will be interested. How they affect plants, distribution of the pest and host range, and control of nematodes are all effectively explained.

Both these bulletins may be obtained from the Extension Service, San Mateo County, 524 Main St., Half Moon Bay, Calif.

all vegetables go for... TRIANGLE BRAND COPPER SULPHATE

Healthy vegetables are an indication of prosperous farming. Successful growers regard Triangle Brand Copper Sulphate as the safe, dependable means for protecting their vegetables and truck crops. For the control of blights and other harmful diseases . . . leaf spot, downy mildew, anthracnose, . . . by the most efficient, economical and longer lasting fungicide, use Triangle Brand Copper Sulphate, the standard for over 50 years. For Bordeaux, other copper sprays and copper-dust mixtures Triangle Brand Copper Sulphate is available in five different grades, large and small crystals, granulated, superfine, and instant (powder). Also, Triangle Brand Basic Copper Sulphate (53% cu).

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PHELPS DODGE REFINING CORPORATION — NICHOLS — TRIANGLE BRAND — CHEMICALS — 40 WALL ST. NEW YORK

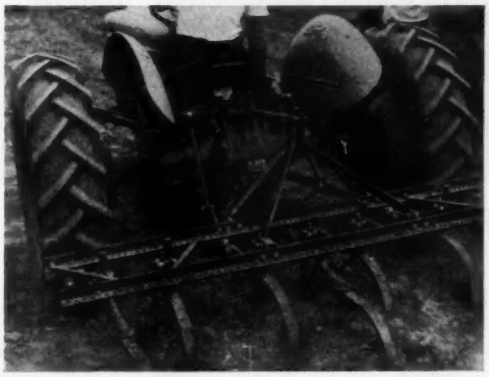
How Leon Epler Grows Potatoes

LEON EPLER of Northumberland, Pa., past president of Pennsylvania Co-operative Potato Growers, Inc., was chosen to give the potato growing demonstration at the annual field day at Potato City, Pa., in July. Within a two-hour period all operations from plowing and planting to spraying and weeding are demonstrated. A plot with potato plants in various stages of growth is used.

Epler grows about 90 acres of potatoes on the rich bottom land of the east branch of the Susquehanna River.

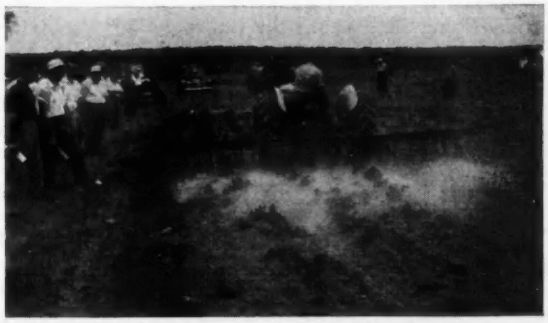
A week or two after planting soil is treated for wireworms. Last year Epler used aldrin sprays and blind cultivated to mix spray with soil. Wireworm damage was most serious complaint of inspectors last season, George Tallman, manager of Pennsylvania association pointed out. He urged growers to spray for wireworm control. As soon as young plants are up, the regular spray program commences. Epler uses brush type boom rather than drop type shown in above photo. He applies four to five gallons per acre—Dithane for blight, DDT for insects, some years parathion.

Using a three-year potato-wheat-hay rotation, Epler first runs heavy disc over mixed hay and clover in fall to permit hay to decay before plowing. On river bottom soil, disc sinks into ground. Photo, taken at Potato City, shows stony upland soil suffering from drought where disc did not penetrate to extent it should.



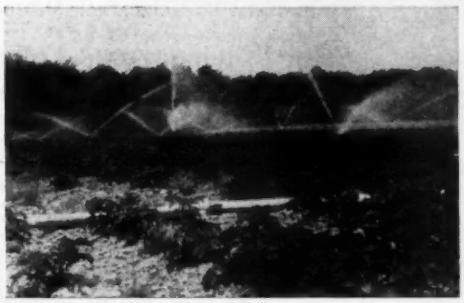
Rear mounted cultivator is used about three times; first to mix in soil spray for wireworms, second when potatoes are up three or four inches. However, Leon is more concerned with soil condition than plant size. He tries to keep the space between rows deep tilled and ready to soak up moisture.

Plowing is done with TNT plows to depth of 14-16 inches. Leon strives for deep, loose root bed, frequently carries a ruler to check plow depth. About one-half fertilizer—600 pounds of 8-16-16—is plowed down. Poultry is a large enterprise for Epler, so part of potato crop receives poultry manure before plowing.



Leon's potatoes are weeded once a week or so as required. Epler uses his weeder to promote a deeper root system. He lets plants grow as large as possible before he stops using his weeder.

Whole seed size B up to one and seven-eighths inches is used. Applied at rate of 20-21 bags per acre, seed is spaced 34 inches between rows, seven inches apart in row. Epler feels planter can pick up and plant whole seed more accurately.



Epler irrigates from the Susquehanna River once or twice during a normal season. Last year he irrigated his fields three times. Rainfall from June to July 28 this year totaled 4.2 inches; Epler had irrigated one and two-thirds times.

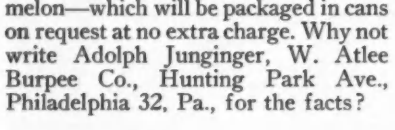
NEW FOR YOU

—to increase your profits

Canned Seeds

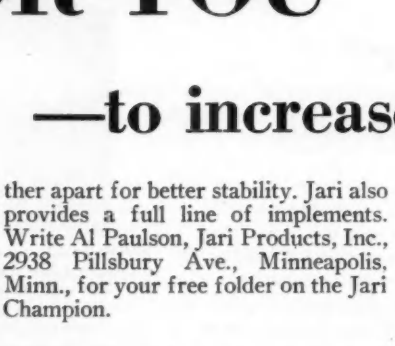
Just the other day we saw the first can of Burpee vegetable seed. This new development means added insurance to the grower, and the cans are easier to handle, too. Units of one-fourth-pound, one-half-pound, and one-pound of seed will be put up in four different can sizes. All Burpee seeds can be purchased in cans, including their hybrid vegetables—tomato, cucumber, eggplant, onion, and watermelon—which will be packaged in cans on request at no extra charge. Why not write Adolph Junginger, W. Atlee Burpee Co., Hunting Park Ave., Philadelphia 32, Pa., for the facts?

New Champion



Growers who have used a Jari sickle bar know the splendid job it does mowing close to vegetable rows. The new Jari Champion will even improve this necessary mowing job. It has a floating sickle bar which lies flat on the ground regardless of position of tractor wheels. The sickle bar can be locked in a horizontal position if the operator desires. Wheels are set further apart for better stability. Jari also provides a full line of implements. Write Al Paulson, Jari Products, Inc., 2938 Pillsbury Ave., Minneapolis, Minn., for your free folder on the Jari Champion.

Zellwood, Fla., Reports

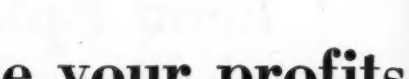


Rust and Stutzman, one of the largest producers of sweet corn in the United States, are fast becoming well known for the excellence of their radish shipments. By using the well-known Stericooler and placing a Food Machinery waxer on their packing line, they are marketing radishes which are earning premium prices because they do not lose color, weight, or flavor. The success of their plan has led these two enterprising growers to follow the same procedure with other root crops and with equal results. You, as a profit-minded grower, should write Elliott Tourjee, Florida Division, Food Machinery and Chemical Corp., Lakeland, Fla., for all of the interesting facts on this operation.

Efficiency and Caterpillar

A dozen farmers from Concord, Mass., to Swan Lake, Idaho, tell how they get bigger yields, better crops, and get them easier with Caterpillar tractors and implements in a new booklet recently issued by Caterpillar. So that you can quickly see and read the spectacular results these growers have had, write Dave Culshaw, Caterpillar Tractor Co., Peoria, Ill. He will be glad to send you his attractive eight-page, heavily illustrated booklet entitled *Market Growing.*

Turbulent Air



The new Buffalo Turbine vegetable crop spray duster performs spectacularly and its many advantages of low cost, lightweight, and insect control, make it a machine all vegetable growers should know more about. The machine fits the average tractor hydraulic lift or can be set on a flatbed truck. One-man control of the machine and chemical range of 200 feet with density control make this an efficient piece of vegetable equipment. Write Don Culbertson, Buffalo Turbine Agricultural Equipment Co., Gowanda, N. Y., for a free pamphlet.

For All Growers

Transparent polyethylene and cellophane prepackaging is no longer restricted to large produce growers and food handlers. Crystal Tube Corporation has just announced a new stock line of transparent and flexible packages designed to accommodate produce of all kinds available to the small grower as well as the large. It includes special designs for all types of produce —carrots, potatoes, onions, lettuce, etc. The bags are imprinted in bright colors and interesting illustrations that carry a considerable amount of sales appeal. You should write Crystal Tube Corporation, 6625 W. Diversey Parkway, Chicago, Ill., for more information.

WATERED PROFITS

Michigan potato growers find irrigation ups yield

SINCE 1948 the Hesselink Brothers of Highland Township, Osceola County, Michigan, have found that irrigation has greatly boosted their yield of high quality potatoes. In 1948 their yield was doubled. They say that the irrigation system paid for itself the first year.

A centrifugal pump, a 55 h.p. engine, and 2,760 feet of lightweight movable pipe bring water to the potato acreage from the Middle Branch River which runs through their farm. Each of two rotating sprinklers waters an acre at one setting. The system covers the field with an inch of water each week that rainfall is short during the growing season.

The Hesselinks grow about 20 acres of Chippewas and Sebagoes for their special market. The irrigation system, which cost about $6,000 to install, now insures a maximum return on the labor and materials that go into the production of the potato crop.

Following each irrigation the Hesselinks spray their potatoes with Bordeaux and DDT to control blight and insects. Production is boosted with barnyard manure and 3-12-12 commercial fertilizer. A three-year rotation on their potato land includes oats, clover for seed, and rye turned down for green manure.

The two irrigation nozzles used on the Hesselink potato farm are mounted on wheels borrowed from their potato digger, to which they are refastened in time for harvest. John Hesselink is shown at left with his man Friday, Dick Swiler.

To meet the demand of housewives in the smaller industrial cities of eastern Michigan, the Hesselinks package their potatoes in 10- and 15-pound bags. The 15-pound pack has been the most popular during recent seasons.

The Hesselinks own their own trucks and do their own trucking to market. They have a potato storage cellar on their farm where the potatoes are graded and stored.

Official table stock production on the Hesselink farm last year was 695 bushels per acre—a yield for which the Hesselinks were rated "potato Kings" of the lower peninsula of Michigan in 1953.—*Fern Berry.*

New Potato Varieties

SACO and Merrimack are two new varieties of high-yielding and disease-resisting white potatoes developed by plant breeders of the USDA and the Maine and New Hampshire agricultural experiment stations. Limited quantities of seed stock of the new varieties will be available to New England growers next spring.

In 1951, when bad weather prevented field treatment for the common race of late blight fungus, test plots of Saco outyielded susceptible Green Mountain and Katahdin by as much as 100 to 200 bushels an acre. In three years of tests in New Hampshire, Merrimack ranked second to Kennebeck in yield per acre but produced better than Green Mountain, Katahdin, and Irish Cobbler. Top-yielder Kennebec is not resistant to ring rot.

SOIL APPLICATION

Es-Min-El is now available in spray or dust form. If you haven't mineralized your soil you can now feed these minerals to your plants through the leaves and stems. Es-Min-El spray or dust is a neutral form of Copper, Manganese and Zinc.

SOLUBLE TRACE MINERALS

Tennessee's trace minerals are soluble and their nutritional value is immediately available to the plant. Soluble trace minerals are more economical and faster acting.

REQUEST: That your local fertilizer dealer furnish you a completely mineralized fertilizer containing the essential mineral elements.

***FOR INCREASED* PRODUCTION!**

In order to produce healthy plants and vitamin-rich crops, your soil must have the proper mineral balance. Perfect health in plants, as in the human body, requires minerals. You cannot grow crops rich in vitamins in soils that are lacking in minerals. Es-Min-El contains the essential minerals — Zinc, Copper, Manganese, Boron, Iron, and Magnesium. Mineralize your soil now with Es-Min-El for healthiest plant growth and vitamin-rich crops.

COPPER FUNGICIDES *For Superior* CONTROL *And* PROTECTION!

The most effective control of blight and other persistent fungus diseases is assured by TC copper-based fungicides. Get an edge on blight by using copper before it attacks your growing crops. As basic producers of copper, the Tennessee Corporation produces a copper-based fungicide to meet virtually every need. Their application is simple and safe. Spray with these superior fungicides early and late and reap greater yields of better quality crops.

TENNESSEE TC CORPORATION

617-629 Grant Building, Atlanta, Ga.

TENNESSEE TRI-BASIC COPPER SULPHATE

TRI-BASIC

TRI-BASIC Copper Sulphate is a chemically stable copper fungicide containing not less than 53% metallic copper. TRI-BASIC Copper Sulphate can be used as a spray or dust on practically all truck crops and citrus crops. Control persistent fungus diseases — correct copper deficiencies from a nutritional standpoint. Use TC TRI-BASIC Copper Sulphate.

COP-O-ZINK · NEUTRAL COPPER ZINC · TC

COP-O-ZINK

COP-O-ZINK is a new, neutral copper-zinc fungicide containing 42% copper and 11% zinc. COP-O-ZINK gives superior performance in control of fungus diseases. COP-O-ZINK'S composition of two essential elements gives it added value in correcting deficiencies of zinc and copper and in stimulating plant growth. COP-O-ZINK is compatible with all inorganic and organic insecticides. No lime is required. For use in spraying or dusting.

REQUEST: That your local dealer furnish you Tennessee TRI-BASIC Copper Sulphate when buying Copper dust mixtures.

OPPORTUNITY ADS

Only 25c a word for one-time insertion; 20c a word for two-time insertion; 15c a word for four-time insertion—CASH WITH ORDER. Count each initial and whole number as one word. ADDRESS AMERICAN VEGETABLE GROWER, Willoughby, Ohio.

AGENTS WANTED

RUN SPARE-TIME GREETING CARD AND gift shop at home. Show friends samples of our new 1954 Christmas and All-Occasion Greeting Cards and Gifts. Take their orders and earn to 100% profit. No experience necessary. Costs nothing to try. Write today for samples on approval. REGAL GREETINGS, Dept. 56, Ferndale, Michigan.

FOR SALE—EQUIPMENT AND SUPPLIES

VEGETABLE TOPPERS. FOR YOUR RADishes and onion sets. Large toppers for regular topping needs. TOP-ALL MACHINE WORKS, Rockton Road, South Beloit, Ill.

1—SPEED SPRAYER, GOOD CONDITION . . . $1000.00. 1—Bean PTO Duster, used one night only. Bargain. 1—Niagara Duster, used one season . . . $500.00. 1—Small Grader for apples and peaches . . . $150.00. 1—500 gal. Bean Sprayer 35 pump. Bargain. CORY ORCHARDS, Cory, Indiana.

GOOD USED FARM CONTAINERS—SPLINT handle baskets, bushels, boxes, hampers, bags, nailed and wire-bound crates. Truckload or carlots. Call or write ZELVY BROS. CONTAINER CO., 2005 Orange Ave., Cleveland, Ohio.

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FREE BOOK—PILES, FISTULA, COLONstomach, associated conditions. Newest scientific procedures. THORNTON & MINOR HOSPITAL, Suite C-912, Kansas City 9, Mo.

MISCELLANEOUS

WRITE FOR FREE LITERATURE ON HOG Cholera, Erysipelas, Hemorrhagic Septicemia and other livestock diseases. COLORADO SERUM COMPANY, 4950 York St., Denver 16, Colorado.

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AMAZING SEWING SHEARS. MAGNETIC points pick up pins. Ruler blade measures as you cut. Samples sent on trial. KRISTEE 104, Akron, Ohio.

WANTED TO BUY

UNIMPROVED FARM, OR RENT ONE. J. H. AYER, Newtown, Ohio.

Are You A Seed Salesman?

Add to your income by selling AMERICAN VEGETABLE GROWER. It's a logical combination for AMERICAN VEGETABLE GROWER will help your customers get the best results from the seed you sell them. *Make every call pay!* This means additional cash for you regardless of whether you sell a seed order or a subscription to AMERICAN VEGETABLE GROWER.

Write today for our liberal, nursery agents' plan. Address:

EDWARD MEISTER, General Manager

AMERICAN VEGETABLE GROWER

Willoughby, Ohio

GROWING PAINS *in the* ONION INDUSTRY

Increased production poses a critical marketing problem

By J. H. SELBY

Secretary
The National Onion Association

FOR some years it has been my good fortune to observe and study onion markets. In my former position as market news representative for the USDA at Benton Harbor, Mich., I was able to study the situation at first hand. During this time I formed some opinions and arrived at some conclusions on the marketing of onions.

The onion industry, as we know it today, is comparatively new. You might say it is just beginning to move because only in the past five years has there been many new and important discoveries in seed, varieties, chemicals, and machinery. The onion has become really big business and today is one of the more important phases of the fruit and vegetable industry. Like all new industries some factors have been overlooked and even neglected. With onions it is the marketing factor. There have been improvements and advances made in marketing but nothing to compare or keep pace with production.

Many voices have been raised to describe the 1953-54 onion season as a catastrophe. It is my contention, despite these many claims, that 1953-54 is not so unusual a season. We have had other years as bad and even worse, and no doubt there will be others as bad or even worse.

It is time now for the onion industry to take steps to avoid such seasons as 1946-47, 1950-51, and 1953-54 or at least move to cushion the effects of such seasons. It is my belief that we have not thoroughly explored all the possibilities of distribution nor developed all available markets for onions.

Per Capita Consumption

To illustrate, let us approach this from the angle of per capita consumption. Let us assume that the approximate 90,000 acres planted to onions yearly will yield 60,000 carlots. With that production our 160 million population is receiving about 13½ pounds of onions per person per year, just a little over one pound per month. Is it unreasonable to believe we can raise that annual figure to 25 pounds per person?

There is no reason to believe the consuming public of this nation cannot absorb a 36 million-bushel onion crop in nine months' time and do it normally. The problem facing the onion industry is to control the years of surpluses and still extend the distribution and promote and exploit the use of onions to the fullest.

The only group qualified to do this is the industry itself, the men who make up its personnel. To accomplish this it will be necessary to have the combined efforts of growers, shippers, and dealers. There can be no "let George do it" attitude on the part of anyone or any group. We must develop untapped outlets, promote new uses, and, above all, resort to some plain, old-fashioned salesmanship.

It would be well for growers to analyze their plantings and determine what can be easily disposed of through normal channels. It would be well for shippers and dealers to analyze their handlings and tonnages and make these needs known to their suppliers. There should be considerably more discretion shown on the part of the grower in his plantings, and considerably more effort on the part of shippers and dealers to develop outlets.

Government Support?

Recently I heard several persons in the industry advocate the initiation of support prices for onions. This is very much like abandoning the ship before it reaches water. The onion industry is in a formative period. It is having growing pains. Above all things we should resist the inclination to ask for government support. Should the onion industry ever come to that sad lot, it will not be many years before it finds itself in the same deplorable condition the potato industry is in today.

It is quiet plain to see that many in the potato industry feel the government is their best customer. Let us not permit this to happen to onions. It is a mistaken idea for anyone to believe that a support program is or can be a solution to the problem of surplus. No one can prostitute integrity for a guaranteed income and call it security. Government assistance in development, certainly; government control of the onion industry, NEVER! ! ! !

Motorists will be attracted to your roadside market—provided it is good-looking and well located. Working drawings for an attractive, easy-to-build stand are available for 50 cents from AMERICAN VEGETABLE GROWER, Willoughby, Ohio.

CANTALOUPES

(*Continued from page 7*)

causing severe damage to the crop in the entire spring-cantaloupe area. The characteristic symptom of the disease is premature death of leaves around the crown of the plant. The destruction of the crown leaves exposes the fruit. Sunburned, misshapen melons of poor quality are the result. The causal agent or agents of the disease have not been isolated, nor has any satisfactory control been suggested.

Thrips a Hazard

Over the past few years thrips have become an important hazard to the production of a successful crop in the spring districts. These tiny, active insects often become numerous after the covers are removed and up until the time the first fruits commence to set. They disappear later in the season when high temperatures occur.

Thrips puncture the epidermis and feed on the exuded sap. They are particularly damaging to flowers and leaves, because they scar the surface tissue of these organs. Furthermore, they damage the pollen and may reduce the early fruit set. The leaves have a silvery appearance where the injury occurs.

If the flowers and leaves are examined carefully for the presence of insects at regular intervals and if at the first sign of excessive build-up in the population control measures are taken, the damage is likely to be unimportant. It is usually too late for effective control after the damage becomes apparent.

The phosphates, parathion, TEPP, and malathion are effective in controlling thrips, and in addition they give excellent control of aphids. However, applications of these materials must be carefully timed so as not to interfere with the insect pollinators. Applications should be made early in the morning or late in the evening when the flowers are closed.

In recent years red spider mites have been a serious pest in cantaloupe fields. The damage is indicated by pale-yellow or reddish-brown spots on the under side of the leaves. Usually a fine webbing is present, filled with cast skins, dust, and other debris.

The Atlantic mite and the two-spotted mite are the ones that commonly give trouble. They can be controlled with some of the new acaricides, such as Ovotran and Aramite, applied when the populations are small.

As in the case of thrips, control measures should be taken before the symptoms become apparent; otherwise the damage has been done before it is possible to establish an effective control. THE END

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Change of the Seasons

SEPTEMBER in most parts of the country is a month of transition. The summer with its great activity begins to wane, then autumn with the suddenness of a killing frost descends upon our vegetable fields. Work shifts from field to packing house, where the last of the season's activities soon come to rest.

We have little time now to consider some aspects of our business, with all action bent once again on winding up the season successfully, but even during our busiest moments we can afford to take a sweeping glance at how things go together and how well we have conditioned our attitudes towards their special features.

Our responsibility as vegetable growers really amounts to our gaining an understanding of life processes, then setting about controlling each one of them for our mutual benefit. We are not only a specific brand of horticulturist, we are biologists, too. Our interest lies in a unity of life and in a balance between the elements of nature with which we work. We concentrate on the mastery of those crafts and arts which help us to fulfill our highest hopes. We know that survival, first of the individual, then of our industry, depends upon how thoroughly we develop harmony with and within our environment. We are craftsman, explorer, philosopher, scientist all rolled into one.

The rewards coming to us from our patient endeavors are more than can be counted in economic terms. We are rewarded in terms of emotional and intellectual satisfaction for having performed a useful and worthy task in a great chain of human events. We feel the thrill of discovery, and count high on our list the pride of achievement when a job is well done. As producers of food for the carrying on of human life we gratiously sense our humble service to mankind.

Now is the time that we can retire with less uneasiness of mind. Another season's experiences have helped to enrich our understanding of the affairs of vegetable growing. We have accomplished some more of the impossibles. Most important of all, we have opened up new fields of discovery, and our hopes are high for next season's explorations.

The Freeze Across the Land

THE month of September can be a sizzler from the standpoint of weather so the title of this editorial logically relates to something that has already happened. In fact, the freeze we refer to started in Gloucester, Mass., in 1924, developed gradually until 1929, and during the past quarter century has become a billion dollar freeze, with every state in the Union involved.

It all dates back to an inventive and enterprising Yankee named Clarence Birdseye. It was he who developed the method for rapid freezing of perishable foods in packages and in 1924 set up shop in Gloucester. In 1929 he sold his infant company and the "Birds Eye" trademark to General Foods Corporation.

Thus was started a revolution in the food industry which in 1953 saw 1,400 companies packing nearly three and one-half billion pounds of the nation's food supply, the value of which hit the one billion two hundred million mark.

Every state in the Union does some commercial freezing, but the bulk is done on the West Coast and in the northeastern and Gulf states. Washington, Oregon, California, New York, and New Jersey lead in vegetable freezing.

Orange juice concentrate is the largest single item quick-frozen. Peas are the biggest single vegetable grown for freezing. In 1953 poundage reached over 226 million. Strawberries account for 85 per cent of the total frozen fruits sales. Ever since Birds Eye first marketed it in 1931, the strawberry has led the fruit pack.

Much experimentation, hard work, money, consumer education, and ingenuity have gone into the development of this billion dollar industry which has had such an impact on agriculture. Congratulations are in order to Birds Eye Frozen Foods Division of General Foods Corporation on its 25th anniversary in pioneering this important and far-reaching enterprise.

"Why can't the Plant Breeders do something for us?"

Color Means Quality

COLOR is a simple, everyday occurrence. It exists all about us. It carries a different conception with each person. Color is universal, except to the blind.

Color in vegetables tells us much about them. First, we have a characteristic color for each perfect specimen. Any variation from this means that the item carries a degree of imperfection. The kind of color it possesses tells us something about its history and what has happened to it. We associate a certain color or combination of colors with certain mineral deficiencies or certain disease effects or insect injuries.

In the grocer's vegetable case, color means quality. The produce salesman is a seller of color. The more color he can pack into his display, the more produce he sells. Color means freshness; it means high mineral and vitamin content; it signifies health. Healthy vegetables mean healthy Americans.

We have instruments for measuring color, type of color, and the intensities of a given color. They tell us when a vegetable is mature for human consumption. They also tell us when our crops are lacking in certain minerals. They will keep telling us much more than we know today about color.

So we live in a panorama of color. Every person is color conscious about something. Perhaps, as vegetable growers, we are proud of our products because of their color. Even so, let us put more color into our business.

Coming Next Month

- Laborsaving Ideas for Vegetable and Potato Production
- Quality Vegetables Easier, Faster, Cheaper
- A New Carrot Harvester
- The Maryland Belt Harvester
- Pile Drivers for Bean Poles

How much do you know about MALATHION*

(Cyanamid's new organic phosphate insecticide)

Did you know...

That malathion is one of the most widely effective of *all* insecticides?

That malathion is the *only* organic phosphate insecticide offering you a wide margin of safety in handling? (Called "one of the safest insecticides to handle" by USDA.)

That malathion is compatible with most other spray materials?

That malathion residues on crops disappear quickly? (Generally less than 1.0 part per million ten days after last application.)

That growers who have used malathion on many different fruit and vegetable crops report outstanding success with malathion against aphids, mites, leafhoppers, Mexican bean beetle and a host of other insect pests?

That malathion also kills flies, even strains which have developed resistance to other insecticides?

Malathion preferred for control of pea aphid

An Eastern agricultural station reports that malathion is the preferred insecticide for use against the pea aphid. Advantages: equal or superior effectiveness, residues do not persist, less hazardous than other organic phosphates, long period of protection, one application often sufficient.

Want to know more?...

Write today for MALATHION GROWER'S GUIDE.

Consult your local agricultural authorities for suggestions on dosages and application procedures. Malathion insecticides are available from well-known manufacturers.

*Also known as MALATHION

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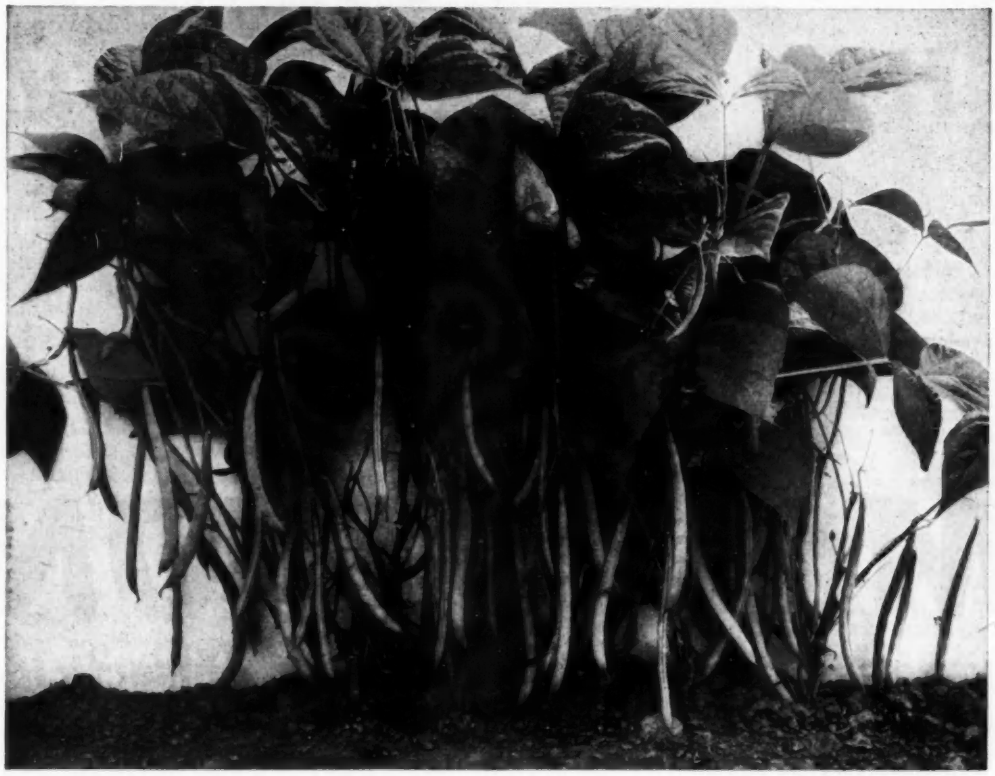

Here's the bean that makes the money

The most popular of all beans grown for market . . . you guessed it, Asgrow Black Valentine. It has held this position for many a year, which must mean that the consumers like it and the growers make money with it. Are you getting your share?

What makes this such a profitable variety for the grower is its dependable, heavy yield of shapely thick-oval pods. They have an attractive appearance in the hamper—and hold that appearance well through shipping and sale. It has imitators of course, but experienced growers stick to the genuine and unsurpassed Asgrow Black Valentine.

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